2017-2145

United States Court of Appeals
for the Federal Circuit

CISCO SYSTEMS, INC.,

Plaintiff-Appellant,

v.

ARISTA NETWORKS, INC.,

Defendant-Appellee.

*Appeal from the United States District Court for the Northern District of
California in Case No. 5:14-CV-05344-BLF,
Judge Beth Labson Freeman*

**BRIEF OF *AMICI CURIAE* THE COMPUTER &
COMMUNICATIONS INDUSTRY ASSOCIATION AND
THE AMERICAN ANTIRUST INSTITUTE**

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December 28, 2017

CERTIFICATE OF INTEREST

Pursuant to Rule 26.1 of the Federal Rules of Appellate Procedure and Federal Circuit Rule 47.4, Jonathan Band, counsel for *amici curiae* the Computer & Communications Industry Association and the American Antitrust Institute certifies the following:

1. The full name of every amicus represented by me is: The Computer & Communications Industry Association and the American Antitrust Institute.

2. The name of the real parties in interest (if the party named in the caption is not the real party in interest) represented by me is: Not Applicable.

3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the amicus curiae represented by me are: None.

4. The names of all law firms and attorneys that appeared for amici now represented by me in the district court or are expected to appear in this court are: *amici* did not appear in the district court; before this court, *amici* are represented by Jonathan Band.

5. The title and number of any case known by me to be pending in this or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal: None.

December 28, 2017

/s/ Jonathan Band
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INTEREST OF *AMICI CURIAE*[1]

The Computer & Communications Industry Association ("CCIA")

represents over twenty companies of all sizes providing high technology

products and services, including computer hardware and software, electronic

commerce, telecommunications, and Internet products and services –

companies that collectively generate more than $465 billion in annual

revenues.[2] CCIA members have a large stake in the rules of software

copyright being properly designed: effective intellectual property protection

encourages developers to create new applications, but the improper

extension of copyright law to functional elements will discourage innovation

and inhibit competition in the industry.

The American Antitrust Institute ("AAI") is an independent, non-

profit organization devoted to promoting competition that protects

consumers, businesses, and society. Its Advisory Board consists of over 130

prominent antitrust lawyers, law professors, economists, and business

leaders.[3] See http://www.antitrustinstitute.org. AAI serves the public

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[1] No counsel for any party authored this brief in whole or part, and no person other than *amici curiae* or its counsel made a monetary contribution to the preparation or submission of this brief. Appellant and Appellee have consented to the filing of this brief.

[2] A list of CCIA members is available at https://www.ccianet.org/members.

[3] Individual views of members of AAI's Board of Directors or Advisory Board may differ from AAI's positions.

through research, education, and advocacy on the benefits of competition and the use of antitrust enforcement as a vital component of national and international competition policy. AAI also seeks to ensure that the intellectual property laws are interpreted and applied in a manner that reflects their ultimate goals of promoting innovation, competition, and consumer welfare.

Amici submit this brief to ensure that this Court properly applies copyright's idea/expression dichotomy to preserve competition in the market for network switches and in the computer industry more broadly.

SUMMARY OF ARGUMENT

In upholding the jury verdict against Cisco, the district court prevented Cisco from using copyright law to lock in its customers and lock out competition. This Court should affirm under the *scenes a faire* doctrine or under the alternative ground that the compilation of Cisco's commands is a system or method of operation unprotectable under 17 U.S.C. § 102(b).

1. Courts have carefully applied copyright law to preserve the balance between protecting the exclusive rights granted under the Copyright Act and promoting robust competition critical to our market economy. The idea/expression dichotomy plays a central role in ensuring that balance. The idea/expression dichotomy is particularly important to maintaining that

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balance in the computer industry given the ubiquitous and utilitarian nature of computer programs. Courts have applied different manifestations of the idea/expression dichotomy—17 U.S.C. § 102(b), the merger doctrine, and the *scenes a faire* doctrine—in a nuanced manner in cases involving computer programs so as to make sure that copyright does not inadvertently grant patent-like protection.

2. The highly complex and networked nature of computer systems provides incumbent vendors with a significant advantage over new entrants. Customers are more likely to purchase additional products from incumbent vendors because they want to ensure that the new products interoperate with their installed base, and that they do not need to retrain their personnel to use the new products. This significant advantage becomes a virtually insurmountable barrier to entry if the elements necessary for interoperability are protected by intellectual property laws. Such a barrier to entry may be appropriate if these elements are patentable. But when these elements are not covered by a patent, courts have relied on the idea/expression dichotomy to prevent copyright from impermissibly locking in customers.

3. Consistent with these precedents, this Court should not apply the copyright law to facilitate the lock-in of customers into Cisco products. Cisco has an 80% share of the network switch market. Virtually every large

and medium-sized business in the country owns Cisco switches. The district court correctly let stand the jury verdict that did not impose copyright infringement liability on Arista for making switches that could function in businesses that already used Cisco switches. While Cisco may have had choices available to it when it compiled its set of command line interface ("CLI") commands, those choices do not diminish the fact that the set of CLI commands is a system for operating the switches, and as such is unprotectable by copyright.

4. This Court should give no weight to the hyperbolic policy arguments by Cisco and its *amici* that affirmance would threaten the existence of the U.S. computer software industry. Cisco and its *amici* ignore that Arista copied only five percent of Cisco's set of CLI commands, and these commands in turn represented only a tiny portion of the Cisco operating system. The decision below does not give a green light to wholesale copying; it simply upholds copyright principles that prevent copyright from being used to strengthen customer lock-in.

ARGUMENT

I. Copyright Law Must Be Applied in a Manner That Maintains Competition.

A. Courts Have Recognized That Copyright Requires a Careful Balance Between Exclusive Rights and Competition.

This Court, as well as the Supreme Court and courts in other circuits, has long recognized that copyright law must be applied in a manner that does not stifle legitimate competition.

For example, this Court in *Chamberlain Group v. Skylink Tech., Inc.*, 381 F.3d 1178 (Fed. Cir. 2004), recognized that intellectual property laws must be applied carefully so as to preserve legitimate competition and balance the interests of rightsholders and consumers. When interpreting the Digital Millennium Copyright Act ("DMCA"), 17 U.S.C. § 1201, the *Skylink* court stated that under the interpretation urged by the plaintiff, a manufacturer would be able "to restrict consumers' rights to use its products in conjunction with competing products." *Skylink*, 381 F.3d at 1201. This would allow "virtually any company to attempt to leverage its sales into aftermarket monopolies—a practice that both the antitrust laws and the doctrine of misuse normally prohibit." *Id*. Indeed, the *Skylink* court understood that plaintiff's interpretation would "grant manufacturers broad exemptions from both the antitrust laws and the doctrine of copyright misuse." *Id*. at 1193. The *Skylink* court noted that in enacting the DMCA,

"Congress attempted to balance the legitimate interests of copyright owners with those of consumers of copyrighted products." *Id*. at 1203. Under the plaintiff's interpretation, which would have "eliminated all balance and granted copyright owners carte blanche authority to preclude all use, Congressional intent would remain unrealized." *Id*.

The Supreme Court in *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 146 (1989), observed that the Constitution's intellectual property clause "itself reflects a balance between the need to encourage innovation and the avoidance of monopolies which stifle competition without any concomitant advance in the 'Progress of Science and useful Arts.'" In *Sony Corp. v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984), the Supreme Court stated that "Congress has been assigned the task of defining the scope of the limited monopoly that should be granted to authors or inventors in order to give the public appropriate access to their work product . . . . [T]his task involves a difficult balance between the interests of authors and inventors in the control and exploitation of their writings and discoveries on the one hand, and society's competing interest in the free flow of ideas, information, and commerce on the other . . . ." *See also Golan v. Holder*, 132 S. Ct. 873, 900 (2012) (Breyer, J., dissenting) (noting that copyright "monopoly is a two-edged sword," which "tends to

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restrict the dissemination (and use) of works once produced," and as a result,

"the Constitution's Framers[] and our case law all have recognized

copyright's resulting and necessary call for balance").[4]

Other circuits likewise understand the need to apply copyright laws

carefully to preserve competition. The Ninth Circuit stated that the

fundamental purpose of the Copyright Act is "to encourage the production of

original works by protecting the expressive elements of those works while

leaving the ideas, facts, and functional concepts in the public domain for

others to build on." *Sega Enterprises Ltd. v. Accolade, Inc.*, 977 F.2d 1510,

1527 (9th Cir. 1993). Restricting public access to ideas and concepts

contained in works confers on the copyright owner "a *de facto* monopoly

over the functional aspects of his work—aspects that were expressly denied

copyright protection by Congress." *Id.* at 1526. To enjoy a lawful monopoly

over the ideas or functional principles underlying a work, "the creator must

satisfy the more stringent standards imposed by the patent laws." *Id. See*

also New Kids on the Block v. News Am. Publ'g, Inc., 971 F.2d 302, 307 n.6

(9th Cir. 1992) ("The process of creation is often an incremental one, and

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[4] When enacting the Copyright Act of 1909, Congress asked, "how much will the monopoly granted by detrimental to the public?" H.R. Rep. No. 2222, 60th Cong., 2d Sess. 7 (1909). It concluded that properly circumscribed, the exclusive right "confers a benefit upon the public that outweighs the evils of the temporary monopoly."

advances building on past developments are far more common than radical

new concepts.").

Likewise, the Second Circuit recognized that "the copyright law seeks

to establish a delicate equilibrium. On the one hand, it affords protection to

authors as an incentive to create, and, on the other hand, it must

appropriately limit the extent of that protection so as to avoid the effects of

monopolistic stagnation." *Computer Assocs. Int'l, Inc., v. Altai, Inc.*, 982

F.2d 693, 696 (2d Cir. 1992).

Similarly, the Fifth Circuit explained that in the Copyright Act

"Congress balanced the competing concerns of providing incentive to

authors to create and of fostering competition in such creativity." *Kern River*

Gas Transmission Co. v. Coastal Corp., 899 F.2d 1458, 1463 (5th Cir.

1990).

B. Robust Application of the Idea/Expression Dichotomy Promotes Competition.

Perhaps the most essential guardrail for preventing copyright from

interfering with legitimate competition is the idea/expression dichotomy: the

basic principle that copyright protects expression, not ideas. This doctrine is

codified at 17 U.S.C. § 102(b), which provides that "[i]n no case does

copyright protection for an original work of authorship extend to any idea,

procedure, process, system method of operation, concept, principle, or

discovery, regardless of the form on which it is described, explained,

illustrated, or embodied in such work." The Supreme Court in *Golan*

identified the idea/expression dichotomy as one of the "traditional contours

of copyright protection" that acts as a "built-in First Amendment

accommodation[]." 132 S. Ct. 873 at 890 (quoting *Eldred v. Ashcroft*, 537

U.S. 186, 219 (2003)). The Court added that due to the idea/expression

dichotomy, "'every idea, theory, and fact in a copyrighted work becomes

instantly available for public exploitation at the moment of publication'; the

author's expression alone gains copyright protection." *Id*. The Court in *Feist*

Publications, Inc. v. Rural Telephone Service Co., Inc., 499 U.S. 340, 348-

49 (1991), explained that "copyright assures authors the right to their

original expression, but encourages others to build freely upon the ideas and

information conveyed by a work …. This result is neither unfair nor

unfortunate. It is the means by which copyright advances the progress of

science and art."

The related doctrines of merger and *scenes a faire* follow from the

idea/expression dichotomy. When an idea can be expressed only in a limited

number of ways, the idea and expression merge, rendering the expression

unprotectable. Melville Nimmer & David Nimmer, 1-2 NIMMER ON

COPYRIGHT 13.03[B][3]. If the expression remained protected in such a

circumstance, the author would receive "a monopoly over the idea itself, thereby preventing others from using that same idea in other works." U.S. Copyright Office, SOFTWARE ENABLED CONSUMER PRODUCTS 15 (2016).

And under the *scenes a faire* doctrine, courts deny protection to expression that is standard, stock or common to a particular topic or that necessarily follows from a common theme or setting. *See Gates Rubber Co. v. Bando Chem. Indus., Ltd.*, 9 F.3d 823, 838 (10th Cir. 1993). The Ninth Circuit explained that "a second author does not infringe even if he produces verbatim the first author's expression, if that expression constitutes stock scenes or scenes that flow necessarily from common unprotectable ideas, because to hold otherwise would give the first author a monopoly in the commonplace ideas behind the *scenes a faire*." *Landsberg v. Scrabble Crossword Game Players, Inc*., 736 F.2d 485, 489 (9th Cir.), *cert. denied*, 469 U.S. 1037 (1984) (citations omitted). *See also CMM Cable Rep, Inc. v. Ocean Coast Props., Inc.*, 97 F.3d 1504, 1522 n.25 (1st Cir. 1996) (noting that *scenes a faire* is "concerned with preventing a monopoly on commonplace ideas").

C. The Idea/Expression Dichotomy Is Particularly Important to Preserving Competition in the Software Industry.

Because of the "essentially utilitarian nature of computer programs," *Sega*, 977 F.2d at 1525 (citing *Altai*, 982 F.2d at 704), the idea/expression

dichotomy plays a large role in ensuring that copyright does not prevent legitimate competition in the software industry.

The House Report on the 1976 Copyright Act directly addressed the relevance of section 102(b) to the scope of copyright protection for computer programs: "Some concern has been expressed lest copyright in computer programs should extend protection to the methodology or processes adopted by the programmer, rather than to the 'writing' expressing his ideas. Section 102(b) is intended, among other things, to make clear that the expression adopted by the programmer is the copyrightable element in a computer program, and that the actual processes or methods embodied in the program are not within the scope of the copyright law." H.R. Rep. No. 94-1476, *reprinted* in 1976 U.S.C.C.A.N. 5659, 5670.

Courts have applied merger principles to software. Recognizing that "efficiency is an industry-wide goal," *Altai, Inc.*, 982 F.2d at 708, the Second Circuit noted that "[w]hile, hypothetically, there might be a myriad of ways in which a programmer may effectuate certain functions within a program…efficiency concerns may so narrow the practical range of choices as to make only one or two forms of expression workable options." *Id*.

Likewise, the Second Circuit found that under the *scenes a faire* doctrine, copyright protection should not extend to program elements where

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the programmer's freedom of design choice is "circumscribed by extrinsic considerations such as (1) mechanical specifications of the computer on which a particular program is intended to run; (2) compatibility requirements of other programs with which a program is designed to operate in conjunction; (3) computer manufacturers' design standards; (4) demands of the industry being served; and (5) widely accepted programming practices within the computer industry." *Id.* at 709-10. *See also Gates*, 9 F.3d at 838; *Sega*, 977 F.2d at 1524.

The U.S. Copyright Office's recent report on copyright issues related to software-enabled consumer products emphasizes the importance of doctrines like *scenes a faire* to ensure that copyright does not hinder interoperability. U.S. Copyright Office, SOFTWARE-ENABLED CONSUMER PRODUCTS (December 2016).[5] Among other topics, the report considered "whether the copyright law furthers or hinders development of interoperable products and services and competition in the arena of software-enabled products." *Id.* at 51. The Copyright Office stated that it "recognizes the importance of preserving the ability to develop products and services that can interoperate with software enabled consumer products, and the goal of

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[5] The Copyright Office viewed software-enabled consumer products as consumer-grade devices in which software is embedded, such as kitchen appliances, cars, and wireless phones. SOFTWARE-ENABLED CONSUMER PRODUCTS, *supra*, at 8-10.

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preserving competition in the marketplace." *Id*. at 52. It concluded that

"faithful application of existing copyright law doctrines can preserve the

twin principles of interoperability and competition." *Id*.

In its discussion of the idea/expression dichotomy, merger, and *scenes*

a faire in the context of interoperability and competition, the report observed

that because 17 U.S.C. § 102(b) ensures that ideas or methods of operation

embodied or described in computer code cannot be protected by copyright,

"the Act does not prevent a competitor from studying code to determine the

underlying methods it teaches, and from implementing those methods using

different code than the original, to create an interoperable or competitive

software-enabled consumer product." *Id*. at 53.

The report elaborated that "'clean room' implementations using

exactly this process have long been used by the computer hardware and

software industries to ensure the development of competitive products." *Id*.

It provided the example of Phoenix Technologies, "which wanted to produce

a new BIOS [Basic Input/Output System] for personal computers that was

compatible with the BIOS produced by the dominant market player, IBM."

Id. After reverse engineering the IBM BIOS to develop a functional

specification that described its operation, Phoenix programmers

implemented the functional specification in original code. The resulting

Phoenix BIOS operated identically to the IBM BIOS, but with different code. The report observed that "Phoenix began selling its BIOS to companies that then used it to create the first IBM-compatible PCs." *Id*. The report concluded its discussion of the Phoenix BIOS by remarking that "as this example demonstrates, section 102(b) has served a critical function in preserving competition." *Id*.

Further, the report acknowledged that "even though computer code is considered expression, that expression may still be copied if it is subject to the limiting doctrines of merger or *scenes a faire*." *Id*. Accordingly, "these doctrines are a promising avenue to permit copying for the purposes of interoperability, at least in the narrow circumstances in which they apply." *Id*. at 54. In such cases, "the merger and *scenes a faire* doctrines will ensure that copyright law does not prevent a competitor from making identical software based on those same constraints." *Id*.

II.   This Court Should Not Apply Copyright Law in a Manner That Facilitates Customer Lock-In.

The nature of computer systems leads to the phenomenon of customer "lock-in" to the products of a particular vendor. Aware of this phenomenon, courts have endeavored to apply copyright law in a manner that does not exacerbate it. This Court should apply the idea/expression dichotomy to the facts of this case to achieve a similar result.

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A. Because of the Complex and Networked Nature of Computer Systems, the Incumbent Vendor of a Computer System Has an Inherent Advantage in Future Sales to that Customer.

Computer systems are a highly complex network of complementary products. In a modern enterprise, the same software needs to be able to operate on different machines; a word-processing or spreadsheet program must have the ability to function on different employees' laptops and desktop computers. Similarly, employees' laptops and desktop computers must be able to communicate with one another, as well as with peripherals such as printers, network equipment such as switches and servers, and with other firms. This communication can occur only if the products are interoperable with one another—if they comply with the same set of communication protocols or interface specifications.

The interoperability operates on a human level as well. Employees must be trained how to use the firm's software and hardware. To avoid additional training costs, the firm would want the employees' skills to be transferable from one product to another.

The interoperability also operates on a programming dimension. Many software platforms allow a business to write programs to perform specific functions relating to the business's unique needs. These customized programs are often referred to as macros or scripts. While some scripts are

simple, they can also be extremely elaborate and require significant resources to develop. The scripts must be interoperable with the platforms on which they run.

The net effect of this imperative for interoperability is that the firm has a bias towards purchasing additional products from the incumbent vendor or its affiliated business partners. *See* Peter Menell, *Rise of the Copyright Dead? An Updated Epitaph for Copyright Protection of Network and Functional Features of Computer Software* (UC Berkeley Pub. Law Research Paper No. 2893192, 2017), HARVARD J.L. & TECH. (forthcoming 2018). Products manufactured by the same vendor are more likely to be seamlessly interoperable with one another because the manufacturer has a complete understanding of its products' functionality. Similarly, products manufactured by the same vendor often are operated in the same manner, making it easier for employees to migrate from one product to another without retraining. Finally, products manufactured by the same vendor are more likely to be interoperable with scripts written to run on one of the vendor's products. This bias towards purchasing from the incumbent vendor gives the vendor a significant first-mover advantage over new entrants.

B. Improper Application of Copyright Law Converts the Incumbent Vendor's Inherent Advantage into an Insurmountable Barrier to Entry.

This inherent first-mover advantage becomes an insurmountable barrier to entry if the elements necessary for interoperability are protected by intellectual property laws. If a new entrant can't use these elements, it can't develop interoperable products, which in turn means customers won't buy its products, no matter how innovative or affordable. Without the availability of competing interoperable products, the customer effectively is locked-in to the incumbent vendor's product line. This lock-in could lead to less competition, higher prices, and less innovation.[6]

If the elements necessary for interoperability are covered by a patent, the patentee gets to enjoy the benefits of any monopoly the patent has conferred upon it, subject to antitrust or patent misuse issues. But when these elements are not covered by patent, courts have relied on section 102(b), merger, and *scenes a faire* to prevent copyright from impermissibly expanding to have a patent-like lock-in effect.

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[6] The lock-in problem is diminished if the products conform to standards set by a standard-setting organization and any intellectual property rights covering the standard are available on fair and reasonable licensing terms. However, dominant firms often can establish their own environments within which the rules of interconnection become *de facto* standards not subject to any licensing obligations.

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Perhaps the most detailed judicial examination of lock-in occurred in

Lotus Dev. Corp. v. Borland Int'l Inc., 49 F.3d 807 (1st Cir. 1995), *aff'd by*

an equally divided court, 516 U.S. 233 (1996). Lotus 1-2-3 was the

dominant spreadsheet program. It had a menu-tree structure with over 400

commands that users could employ when working with the program.

Additionally, a user could employ the commands to write a "macro" — a

program that used a sequence of menu commands to perform a series of

spreadsheet operations in a particular order. These macros could be quite

complex, including thousands of individual commands.

Borland developed a competing spreadsheet program with its own

code and command structure. However, Borland wrote the program so that it

also could operate in a Lotus 1-2-3 mode. In this mode, the user could

employ the Lotus commands as well as the macros she had written with the

Lotus commands.

The First Circuit found that the Lotus 1-2-3 command structure was

an unprotectable method of operation. The court recognized that "Borland

included the Lotus command hierarchy in its programs to make them

compatible with Lotus 1-2-3 so that spreadsheet users who were clearly

familiar with Lotus 1-2-3 would be able to switch to the Borland programs

without having to learn new commands or rewrite their Lotus macros."

Lotus, 49 F.3d at 810. The court's concern about preserving the user's ability to switch products underlay its conclusion that the command structure was an unprotected method of operation. The court viewed as "absurd" Lotus's theory that "if a user uses several different programs, he or she must learn how to perform the same operations in a different way for each program used." *Id.* at 817. Likewise, the court rejected Lotus's view that a user should be unable to employ a macro he wrote with the Lotus commands on a competing program, but instead should "have to rewrite his or her macros using that other program's menu command hierarchy." *Id.* at 817.

Relying on the Supreme Court's statement in *Feist* that copyright "encourages others to build freely upon the ideas and information conveyed by a work," *Feist*, 499 U.S. at 350, the First Circuit noted that "in most contexts, there is no need to 'build' upon other people's expression, for the ideas conveyed by that expression can be conveyed by someone else without copying the first author's expression." *Lotus*, 49 F.3d at 818. However, in the context of methods of operation, "'building' requires the use of the precise method of operation already employed; otherwise, 'building' would require dismantling, too. Original developers are not the only people entitled to build on the methods of operation they create; anyone can." *Id.*

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In his concurring opinion, Judge Boudin observed that because of the utilitarian and functional nature of computer programs, the danger of over-protection is much greater than in the case of traditional literary works: "a 'mistake' in providing too much protection for [traditional works] involves a small cost: subsequent authors treating the same themes must take a few more steps away from the original expression." *Lotus*, 49 F.3d at 819 (Boudin, J., concurring). But in the case of computer programs, the improper grant of copyright protection "can have some of the consequences of patent protection in limiting other people's ability to perform a task in the most efficient manner." *Id.*

Judge Boudin then turned to the facts of the case before him, and addressed the lock-in implications of including the Lotus 1-2-3 command structure within the scope of copyright protection. He observed that a computer program's command structure "may be a creative work, but over time its importance may come to reside more in the investment that has been made by *users* in learning the menu and in building their own mini-programs — macros — in reliance upon the menu." *Id.* at 821 (emphasis in original). Judge Boudin added that "if Lotus is granted a monopoly on this pattern, users who have learned the command structure of Lotus 1-2-3 or devised their own macros are locked into Lotus, just as a typist who has learned the

QWERTY keyboard would be the captive of anyone who had a monopoly on the production of such a keyboard." *Id*. He found "it is hard to see why customers who have learned the Lotus menu and devised macros for it should remain captives of Lotus because of an investment in learning made by the users and not by Lotus." *Id*. Lotus "has already reaped a substantial reward for being first." *Id*. Furthermore, "good reasons exist for freeing" Borland to attract Lotus 1-2-3 users: "to enable [them] to take advantage of a new advance…." *Id*.

In *Oracle America, Inc. v. Google Inc.*, 750 F.3d 1339, 1365 (Fed. Cir. 2014), this Court declined to follow *Lotus*. However, as Arista explains in its brief, *Oracle* does not control here because of significant factual differences as well as intervening Ninth Circuit precedent. Arista Br. at 64-66. *See also* EFF *Amicus* Br. at 2-8. Moreover, this Court in *Hutchins v. Zoll*, 492 F.3d 1377, 1384 (Fed. Cir. 2007), cited *Lotus* with approval.

The *Lotus* court's application of copyright law in a manner that prevents lock-in by permitting competition is consistent with a slew of other circuit court decisions involving lock-in. In *Sega*, for example, the Ninth Circuit recognized that customers were locked into the Sega Genesis console. It found that "the functional requirements for compatibility with the Genesis console" were "aspects of Sega's programs that are not protected by

copyright. 17 U.S.C. § 102(b)." *Sega*, 977 F.2d at 1522. The Ninth Circuit

explained that if reverse engineering were not permitted, "the owner of the

copyright gains a de facto monopoly over the functional aspects of his

work—aspects that were expressly denied copyright protection by Congress.

17 U.S.C. §102(b). In order to enjoy a lawful monopoly over the idea or

functional principle underlying a work, the creator must satisfy the more

stringent standards imposed by the patent laws." *Id.* at 1526.

Likewise, in *Mitel, Inc., v. Iqtel, Inc.*, 124 F.3d 1366 (10th Cir. 1997),

the Tenth Circuit prevented customers from being locked into Mitel's

dominant communications hardware environment. The court below correctly

relied on *Mitel* to uphold the jury's verdict against Cisco. Cisco devotes

great energy to distinguishing *Mitel*, Cisco Br. at 31, but it overlooks the

salient fact that Mitel customers were locked into the Mitel call controller

product line, and that Iqtel's controllers needed to use the same command

codes as Mitel in order to compete.[7]

Similarly, in *Altai*, the Second Circuit prevented customers from

being locked into the dominant Computer Associates environment; and in

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[7] Cisco argues that the *scenes a faire* doctrine considers only the external
factors that constrained the copyright holder's original expression. Professor
Samuelson, however, demonstrates that in the Ninth Circuit, *scenes a faire*
can also apply to elements that become standards over time. *See* Samuelson
Amicus Br. at 13-16. Thus, *scenes a faire* can render unprotectable
expression that has evolved into a standard by the time it is copied.

Sony Computer Entertainment, Inc., v. Connectix Corporation, 203 F.3d 596 (9th Cir. 2000), the Ninth Circuit prevented customers from being locked into the dominant Sony PlayStation platform. What all these decisions have in common is the courts' recognition that program elements necessary to defeat lock-in are unprotectable under copyright. While the courts have referred to merger, *scenes a faire*, or methods of operation, these elements perhaps are best described as part of a system of interconnection section 102(b) leaves outside of the scope of copyright protection.

III.   **This Court Should Not Apply Copyright in a Manner That Locks Customers into the Cisco Environment.**

Cisco has an 80% share of the network switch market. Arista Br. at 6. Virtually every large and medium-sized business in the country owns Cisco switches. Once a customer buys a Cisco switch, it shouldn't be locked into the Cisco environment and forced to buy only Cisco switches as it expands. The district court correctly let stand the jury verdict that did not impose copyright infringement liability on Arista for making switches that could function in businesses that already used Cisco switches.

Cisco now urges this Court to overturn the jury verdict and find Arista liable for employing approximately 500 of the same command line interface (CLI) commands used by Cisco. The record suggests that employing some of the same CLI commands as Cisco is essential for Arista to compete in the

market for network switches. Network engineers are familiar with the Cisco set of CLI commands, and demand on using the same (or similar) CLI commands when configuring the large number of switches often under their control.[8] *See* Arista Br. at 9, 14. Unless Arista can use some of the Cisco CLI commands, and thereby achieve a degree of interoperability with the Cisco switches, it is apparent that few, if any, businesses would purchase its switches. *Id.*

To be sure, Arista's CLI commands are not identical to Cisco's; indeed, Arista uses only 500 out of the over 16,000 CLI commands Cisco uses. *Id.* at 1. Cisco makes much of the fact that Cisco competitors Juniper and HP do not use exactly the same 500 Cisco CLI commands as Arista. However, Cisco neglects to mention that the commands of all the switch manufacturers overlap to a certain extent. Arista Br. at 10. Moreover, Dell uses 1400 CLI commands that are identical to Cisco's. *Id.*

Regardless of the amount of overlap and the choices available to Cisco (if any) at the time it established its array of CLI commands, decisions such as *Lotus* and *Sega* discussed above make clear that Cisco's compilation of CLI commands (assuming that such a compilation really exists) is outside the scope of copyright protection. The jury relied on the *scenes a faire*

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[8] Cisco acknowledges that Arista's use of Cisco's CLI commands "reduces Arista's customers' costs to retrain their engineers." Cisco Br. at 1.

doctrine, but section 102(b) provides alternative grounds for affirmance: the

CLI is a *system* for configuring the switches, and as such is not protected by

copyright. A recent decision in the Ninth Circuit in a case outside the

computer industry drives this point home.

In *Bikram's Yoga College of India v. Evolation Yoga, LLC*, 803 F.3d

1032 (9th Cir. 2015), the Ninth Circuit considered the protectability of a

sequence of yoga positions. Bikram developed a sequence of 27 yoga

positions that he claimed maximize relaxation and provide other health

benefits. Bikram published the sequence in a book. The defendant published

a book that contained the same sequence. Bikram sued for infringement, but

the Ninth Circuit found for the defendant, holding that the sequence was a

system unprotected under section 102(b). Bikram had argued that there were

many different yoga positions and many different ways of sequencing them,

and that he had exercised great creativity in selecting and arranging these 27

positions.

The Ninth Circuit held that although Bikram had many choices, he

had arranged the sequence in a certain way to achieve a certain result, and

thus the sequence was a system or process (although the book as a whole

was covered by copyright). The court said: "It makes no difference that

similar results could be achieved through a different organization of yoga

poses and breathing exercises. [Plaintiff] argues that he could have chosen from 'hundreds of postures' and 'countless arrangements of these postures' in developing the Sequence. But the possibility of attaining a particular end through multiple different methods does not render the uncopyrightable a proper subject of protection. Though it may be one of many possible yoga sequences capable of attaining similar results, the Sequence is nevertheless a process and is therefore ineligible for copyright protection." *Id*. at 1042.

Cisco argues that it could have organized its CLI commands in many different ways, and that its choices reflected creativity protected by copyright. The *Bikram's Yoga* decision stresses that even though a system can be designed in many ways, it still is a system unprotected by copyright.

IV.   Upholding the Jury Verdict Will Enhance, Rather than Undermine, the Software Industry in the United States.

Cisco and its *amici* make sweeping claims about the impact affirmance potentially would have on the software industry. These hyperbolic arguments have no merit and should be ignored by this Court.

Cisco asserts that the decision below "jeopardizes the enforceability of copyrights in any interface or other program that has copyright by virtue of its 'sequence, structure, and organization.'" Cisco Br. at 3. Cisco's *amici* likewise state that "the decision below jeopardizes copyright protection for the best computer software and other compilations." Mathworks et al.

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Amicus Br. at 4. They contend that the district court's decision would "permit wholesale copying of original computer programs" and the "slavish copying of drop-in replacements that share 99.9999% similarity with original programs…." *Id*. at 13. *See id*. at 30 (claiming that the "free ride afforded Arista" was "copying of the worst kind.").

However, there is no allegation in this case that Arista copied a single line of Cisco code; to the contrary, the operating system in Arista's switches contains millions of lines of original code. Nothing in this case relates to the protectability of source code or the structure, sequence, and organization of code. Nor did Arista copy any graphical user interfaces, nor even the entire compilation of Cisco CLI commands. Rather, Arista copied less than five percent of the compilation of the commands Cisco used, and there was ample evidence in the record that those commands were dictated by function or industry standards. Moreover, the commands were a small part of Cisco's operating system.[9] Thus, affirmance would not reduce any firm's incentive to develop new computer programs—including Cisco.

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[9] Cisco's *amici*'s wild statements concerning "99.999% similarity with original programs" and "99.999% clone" presumably are based on Arista's promotional statements to potential customers of the "99.999 percent similarity in the CLI." *See* Cisco Br. at 57. But advertising puffery is not evidence of substantial similarity of expression for purpose of copyright infringement analysis.

True, Arista designed a switch that in some respects was a "clone" of the Cisco switch in that it provided many of the same functions and could be operated in a similar manner. But providing the same functionality and ease of use does not infringe copyright. Granting temporary monopolies in utility and functionality is the province of patent law, not copyright. Cisco and its *amici* in effect make the policy argument that allowing such clones would diminish the incentive to innovate in the software industry. This echoes the arguments made by dominant vendors 25 years ago in the *Altai* litigation, where they contended that allowing the creation of interoperable programs like Altai's "will be a disincentive for future computer program research and development." *Altai*, 982 F.2d at 711. The Second Circuit responded that "the interest of the copyright law is not in simply conferring a monopoly on industrious persons, but in advancing the public welfare through rewarding artistic creativity, in a manner that permits the free use and development of non-protectable ideas and processes." *Id*. The Second Circuit noted that the Supreme Court's decision in "*Feist* teaches us that substantial effort alone cannot confer copyright status on an otherwise uncopyrightable work." *Id*. The Second Circuit went on to say that "[w]hile incentive based arguments in favor of broad copyright protection are perhaps attractive from a pure policy perspective, ultimately, they have a corrosive effect on certain

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fundamental tenets of copyright doctrine." *Id.* at 712 (citations omitted). *See also Sega*, 977 F.2d at 1523 ("an attempt to monopolize the market by making it impossible to compete runs counter to the statutory purpose of promoting creative expression").[10]

While affirmance would not have the dire impact on the software industry predicted by Cisco and its *amici*, reversal would have a serious chilling effect on the development of interoperable competing products. When products perform the same functions, and there is only a limited number of logical commands relating to each of those functions, some overlap in commands is inevitable and necessary to prevent lock-in. If that overlap is found to infringe the copyright in the compilation of commands, then prudent technology firms will be deterred from developing competing computer products that benefit consumers.

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[10] *See* Jonathan Band & Masanobu Katoh, INTERFACES ON TRIAL: INTELLECTUAL PROPERTY AND INTEROPERABILITY IN THE GLOBAL SOFTWARE INDUSTRY (1995); Jonathan Band & Masanobu Katoh, INTERFACES ON TRIAL 2.0 (2011); and Jonathan Band, INTERFACES ON TRIAL 3.0 (2017), *available at* http://www.policybandwidth.com/interfaces-2-0, for a detailed discussion of the global copyright policy battles between incumbent vendors and developers of interoperable computer products over the past 30 years.

CONCLUSION

For the forgoing reasons, the decision below should be affirmed.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify, that on this 28th day of December 2017, a true and correct copy of the foregoing Brief of *Amici Curiae* the Computer & Communications Industry Association and the American Antitrust Institute was timely filed electronically with the Clerk of the Court using CM/ECF, which will send notification to all counsel registered to receive electronic notices.

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CERTIFICATE OF COMPLIANCE

1.   This brief complies with the type-volume limitations of Fed. R. App. P. 32(a)(7)(B) because it contains 6,365 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(a)(7)(B)(iii) and Federal Circuit Rule 32(b).

2.   This brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the types style requirements of Fed. R. App. P. 32(a)(6) because it has been prepared in a proportionally spaced typeface using Microsoft Word in 14 point Times New Roman.

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